

EER Sheet- Dr. Hatem 2016

EERD exercise

1- Consider a small database for a company specializes on IT training. The database stores general information **about students (stud_id, stud_name, grad_level), classes (class_id, class_name, units_earned), instructors (inst_id, inst_name, position), and grades (grad_id, stud_id, class_id, grad)** in the following way.

- Classes can contain zero, one, or more students. Students are enrolled in zero, one, or more classes.
- Classes can be a prerequisite of zero, one, or more classes. In this case, a class can be both a normal class and a prerequisite class for another class.
- A class can be taught by one instructor and one instructor only. Each instructor can teach zero, one, or many classes.
- Instructors can give zero, one, or more grades. Grades can be given by zero, one, or more instructors.
- Students can receive zero, one, or more grades. Grades can be given to zero, one, or more students.
- Grades can come from one class and one class only. A class can have many grades earned from it.

Draw the EER diagram, including the cardinality of the relationships and determine which relationship is a recursive relationship. Also, determine which attributes are candidate keys, and select a primary key for each entity.

Question Two

1- Give one example for the following relations

- Binary relationship
- Ternary relationship
- Unary relationship

2) The following table contains sample data for parts and for vendors who supply those parts. Perform the following activates at the table:

- Convert the relations in this table into the first normal form.
- Perform the second normal form to the previous resulted relations.
- Develop a set of third normal form at the resulted relations.

Part Number	Description	Vendor Name	Address	Unit Cost
1234	Logic chip	Fast Chips	Intel	10.00
		Smart Chips	IBM	8.00
5678	Memory chip	Fast Chips	Intel	3.00
		Quality Chips	Phoenix	2.00
		Smart Chips	IBM	5.00